Liriodendron tulipifera - Tilia americana var. heterophylla - (Aesculus flava) / Cimicifuga racemosa Forest

COMMON NAME	Tuliptree - Appalachian Basswood - (Yellow Buckeye) / Common Black-cohosh
SYNONYM	Southern Appalachian Cove Forest (Typic Foothills Type)
PHYSIOGNOMIC CLASS	Forest (I)
PHYSIOGNOMIC SUBCLASS	Deciduous forest (I.B)
PHYSIOGNOMIC GROUP	Cold-deciduous forest (I.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (I.B.2.N)
FORMATION	Lowland or submontane cold-deciduous forest (I.B.2.N.a)
ALLIANCE	*Liriodendron tulipifera - Tilia americana* var. *heterophylla - Aesculus flava - Acer saccharum* Forest Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

RANGE

Globally

This community occurs in the low mountains of Georgia, North Carolina, and South Carolina, and could possibly range into Tennessee and Virginia.

Great Smoky Mountains National Park

This association was not observed or sampled on the Mount Le Conte or Cades Cove quadrangles. As currently defined it does not occur in the Park.

ENVIRONMENTAL DESCRIPTION

Globally

Mixed mesophytic forests of the low mountains and foothills, mostly below 2000 feet elevation in the southern Blue Ridge escarpment.

Great Smoky Mountains National Park

No information

MOST ABUNDANT SPECIES

Globally

Stratum	Species
Tree canopy	*Liriodendron tulipifera*
Herbaceous	variable

Great Smoky Mountains National Park

Stratum	Species
No information	

CHARACTERISTIC SPECIES

Globally

Liriodendron tulipifera, *Tilia americana* var. *heterophylla, Fraxinus americana, Carya alba, Adiantum pedatum, Phegopteris hexagonoptera*, *Actaea pachypoda, Carex plantaginea, Carex austrocaroliniana, Trillium catesbaei, Sanguinaria Canadensis*

Great Smoky Mountains National Park

No information

VEGETATION DESCRIPTION

Globally

This forest is dominated by *Liriodendron tulipifera*, but other canopy species typically include *Tilia americana* var. *heterophylla, Fraxinus americana, Carya alba, Aesculus flava, Halesia tetraptera, Fagus grandifolia, Quercus alba,* and *Acer rubrum. Tsuga canadensis* is not dominant; shrubs are sparse, if present. In the vicinity of the Chauga River, South Carolina, *Acer leucoderme* may dominate the understory. Ferns are often locally dominant, typically *Thelypteris noveboracensis, Polystichum acrostichoides, Adiantum pedatum, Phegopteris hexagonoptera*, and *Athyrium filix-femina* ssp. *asplenioides*. The herb stratum is

diverse, and coverage is often scattered. Typical species include *Actaea pachypoda, Asarum canadense, Carex plantaginea, Carex austrocaroliniana, Cimicifuga racemosa, Collinsonia canadensis, Goodyera pubescens, Hepatica nobilis* var. *acuta, Viola blanda, Galium latifolium, Galium circaezans, Trillium catesbaei, Maianthemum racemosum, Sanguinaria canadensis, Thalictrum thalictroides,* and *Monarda clinopodia*. This forest occurs on moderately steep, protected slopes and in coves, over nutrient-rich soils formed from colluvium.

Great Smoky Mountains National Park
No information

OTHER NOTEWORTHY SPECIES
No information

CONSERVATION RANK G4?

RANK JUSTIFICATION

DATABASE CODE CEGL007291

COMMENTS
Globally
This association can have species with Piedmont affinities and lacks species typical of higher elevation cove forests, such as *Acer saccharum, Impatiens pallida, Clintonia umbellulata, Disporum maculatum, Polygonatum pubescens, Streptopus roseus, Astilbe biternata, Veratrum viride*, and *Maianthemum canadense.* This association was originally defined from the Chattooga Basin Project data (S. Simon pers. comm.). Additional examples are known from low escarpment and foothill areas of the southern Blue Ridge, including the Brushy Mountains (Wilkes County, North Carolina), Linville Gorge (Burke County, North Carolina), and the Highland Ranger District, Nantahala National Forest (Jackson and Macon counties, North Carolina). Similar vegetation in the Cumberland Mountains and Plateau is distinguished by the lack of such species as *Carex austrocaroliniana* and *Trillium catesbaei.* Deciduous cove forests are perhaps the most complex group of communities to classify in the southern Blue Ridge, due to a combination of wide environmental range, high species richness, and high biogeographic variability. The recognition of associations based on fertility and elevation is provisional and will likely need further refinement.

Great Smoky Mountains National Park
Forests similar to this concept found on the Cades Cove quadrangle were classed as *Liriodendron tulipifera - Aesculus flava - (Fraxinus americana, Tilia americana var. heterophylla) / Cimicifuga racemosa - Laportea canadensis* Forest (CEGL007710).

REFERENCES
Nelson 1986, Schafale and Weakley 1990, Simon pers. comm.